



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/746,056	12/21/2000	Jarmo Lehtonen	297-010035-US(PAR)	9867

7590 05/11/2004

Clarence A. Green  
PERMAN & GREEN, LLP  
425 Post Road  
Fairfield, CT 06430

EXAMINER

BERNATZ, KEVIN M

ART UNIT PAPER NUMBER

1773

DATE MAILED: 05/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

AS

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/746,056	LEHTONEN, JARMO	
	<b>Examiner</b>	<b>Art Unit</b>	
	Kevin M Bernatz	1773	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 2-48 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-48 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |  |
|---|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____  |

## **DETAILED ACTION**

### ***Response to Amendment***

1. Amendments to claims 2 – 11, 15, 17 and 26, cancellation of claim 1, and addition of new claims 46 - 48, filed on February 19, 2004, have been entered in the above-identified application.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### ***Request for Continued Examination***

3. The Request for Continued Examination (RCE) under 37 CFR 1.53 (d) filed on February 19, 2004 is acceptable and a RCE has been established. An action on the RCE follows.

### ***Examiner's Comments***

4. Regarding the limitation(s) "interference effect" in claims 2 - 48, the Examiner has given the term(s) the broadest reasonable interpretation(s) consistent with the written description in applicant's specification as it would be interpreted by one of ordinary skill in the art. *In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027 (Fed. Cir. 1997); *In re Donaldson Co., Inc.*, 16 F.3d 1190, 1192-95, 29 USPQ2d 1845, 1848-50 (Fed. Cir. 1994). See MPEP 2111. Specifically, the Examiner notes that an interference effect can occur from reflection and/or absorption of light on the coating or the

Art Unit: 1773

"reflections and interferences taking place at the boundary surfaces of said patterns" (*page 2 of specification*), where applicant is reminded that boundary surfaces exist along the sides of objects/coatings, as well as exposed surfaces (or surfaces contacting the substrate). Hence, letters, symbols, etc. are all deemed "interference effects" since the interaction of the behavior of the light from the surface of the symbol versus the surface at the boundary surrounding the symbol allows for visible contrast, thereby distinguishing the symbol from the background. Finally, the Examiner notes that applicant has even included "an extreme example of the interference effect a case where the interference phenomenon is not observed at all, for instance when rays of light are reflected from a completely uncoated surface" (*page 7 of specification*).

### ***Specification***

5. Applicants should remove the term "Figure 4" from the abstract since it appears to have been accidentally included.

### ***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 47 and 48 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to

Art Unit: 1773

one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. While applicant has support for the base/support film being transparent (pages 2 – 3), applicant does not have support for “both of said first and second coating layers are substantially transparent”.

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 19 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention for the reasons of record as set forth in Paragraph No. 4 of the Office Action mailed on June 18, 2003.

### ***Claim Rejections - 35 USC § 102***

10. Claims 2, 3, 11 – 15, 17 – 29, 31 – 37, 41 – 44 and 46 - 48 are rejected under 35 U.S.C. 102(e) as being anticipated by Curiel (U.S. Patent No. 5,913,543).

Regarding claims 17, 41 – 44 and 46, Curiel discloses a method for forming an optical coating for creation of an interference phenomenon at visible wavelength of light onto a surface of an object (*Abstract*), which object has a first area (*Figure 5, area 146 and col. 9, lines 1 – 22*) and a second area on the surface of an object (*Figure 5, any area other than area 146, such as area 41 or uncoated outer areas*), comprising the steps of forming a first coating layer on said first area (*area 146 and col. 9, lines 1 – 22*), having a thickness and optical properties for creating a first interference effect at a

Art Unit: 1773

predetermined wavelength of visible light (*col. 9, lines 1 – 22: wherein it is disclosed that area 146 displays a pattern that is invisible to the naked eye*), and forming a second coating layer, on said second area (*e.g. any area other than area 146 in Figure 5*), having a thickness and optical properties for creating a second interference effect at said predetermined wavelength of visible light (*i.e. any of the visible reflected patterns, such as the text printing, is an interference effect that is different than the reflected patterns of area 146, which are invisible to the naked eye due to their size*), wherein said second interference effect is different from said first interference effect, and one of said first and second interference effects is visible, and the other invisible to the naked eye (*ibid*).

Regarding claims 2, 3, 18 and 19, Curiel discloses second areas meeting applicant's claimed limitations (*Figure 5, uncoated areas or the coated hologram, area 41*).

Regarding claims 11 – 13, 21, 22, 25 – 29, and 31 - 37, the limitation(s) in these claims are (an) intended use limitation(s) and are not further limiting in so far as the structure of the product is concerned for the reasons cited above. However, the Examiner notes the Curiel discloses many comparable/overlapping uses of the object and/or identifiers (*Figures, col. 1, lines 16 – 21, 30 – 36, and 39 – 40, col. 3, lines 14 – 16; and col. 5, lines 28 – 39*). It is deemed that the disclosed invention would have been capable of being used in/as the claimed limitations, thereby meeting the intended use claims.

Regarding claims 14 and 15, Curiel discloses identifiers meeting applicants' claimed limitations (*Figure 5 and col. 9, lines 1 – 22*).

Regarding claim 20, Curiel discloses multiple coating layers in the area designated by the numbers "07" in Figure 5 and by the numbers "96" in Figure 5 (*col. 7, lines 50 – 64 and the Examiner notes that the text is a "coating layer" applied over the underlying coating layers shown in Figure 5*).

Regarding claims 23 and 24, Curiel discloses coatings comprising both metal compounds and non-metallic compounds (*col. 8, lines 5 – 6 and col. 9, lines 8 – 11*).

Regarding claims 47 and 48, Curiel discloses forming multiple transparent areas on the surface of the object (*Figure 5, elements 146 and 41 + 42; col. 7, lines 50 – 52; col. 9, lines 1 – 21; and col. 10, lines 38 – 48*).

### ***Claim Rejections - 35 USC § 103***

11. Claims 4 – 6 and 8 – 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Curiel as applied above, and further in view of Prince et al. (U.S. Patent No. 5,605,759) and Dobrowolski (EP 181,770 A2).

Curiel is relied upon as described above.

Curiel fails to disclose the claimed coating methods.

However, the claimed coating methods are all known coating methods for applying diverse coatings to surfaces (*see Dobrowolski, page 18, line 32 bridging page 19, line 1 and Prince et al., Title and col. 2, lines 53 – 64*). The Examiner deems that the determination of an appropriate coating/deposition technique would be within the

Art Unit: 1773

knowledge of one of ordinary skill, depending on the type of coating to be applied, the cost of the coating method and the production facilities available.

It would therefore have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the device of Curiel to utilize a deposition/coating technique known in the art to one of ordinary skill, depending on the type of coating to be applied, cost and production facilities available.

12. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Curiel as applied above.

Curiel is relied upon as described above.

Curiel fails to explicitly disclose adding tinting meeting applicant's claimed limitations.

However, Curiel teaches coating documents and printing on said documents (*Figure 5*) and using colored (i.e. tinted) inks is deemed a matter of obvious design choice, depending on the desired aesthetics of the finished product.

It would therefore have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the device of Curiel to utilize a tinting meeting applicant's claimed limitations, since it is an obvious matter of design choice within the knowledge of one of ordinary skill in the art.



Art Unit: 1773

13. Claims 16 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Curiel as applied above, and further in view of Pennace (U.S. Patent No. 5,296,949).

Curiel is relied upon as described above.

Curiel fails to disclose the invisible identifier as being detected by photon radiation.

However, the Examiner deems that invisible identifier used by Curiel (invisible due to small size) and invisible identifiers readable by photon radiation are known equivalents in the field of security markings for documents, as evidenced by Pennace, which teaches that using security markers visible only to infrared or ultraviolet light (i.e. "photon radiation") are known in the art (*col. 1, lines 20 – 28*).

Substitution of equivalents requires no express motivation as long as the prior art recognizes the equivalency. In the instant case, security identifiers that are invisible due to their extremely small size and security identifiers that are invisible except under photon radiation are equivalents in the field of optically invisible security identifiers. *In re Fount* 213 USPQ 532 (CCPA 1982); *In re Siebentritt* 152 USPQ 618 (CCPA 1967); *Graver Tank & Mfg. Co. Inc. v. Linde Air Products Co.* 85 USPQ 328 (USSC 1950).

It would therefore have been obvious to one of ordinary skill in the art at the time of the applicant(s) invention to modify the device of Curiel to use an invisible identifier meeting applicant's claimed limitations, since substitution of known equivalents is within the capability of one of ordinary skill in the art.

Art Unit: 1773

14. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Curiel as applied above, and further in view of Antes et al. (U.S. Patent No. 4,984,824).

Curiel is relied upon as described above.

Curiel fails to disclose a coating thickness meeting applicant's claimed limitations.

However, the Examiner deems that it would have been obvious to one having ordinary skill in the art to have determined the optimum value of a cause effective variable such as the coating thickness through routine experimentation, especially given the teachings in Antes et al. regarding appropriate thickness values for visible and invisible coatings (*col. 2, lines 19 – 40 and lines 64 – 65; col. 3, lines 49 – 51; and col. 4, lines 6 – 14 and lines 54 - 57*). *In re Boesch*, 205 USPQ 215 (CCPA 1980), *In re Woodruff*, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990).

It would therefore have been obvious to one of ordinary skill in the art at the time of the applicant(s) invention to modify the device of Curiel to use a coating thickness meeting applicant(s) claimed limitations, since the optimization of a known cause-effective variable is within the capabilities of one having ordinary skill in the art.

15. Claims 38 – 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Curiel as applied above, and further in view of the state of the prior art, as evidenced by Lasch et al. (U.S. Patent App. No. 2002/0145049 A1).

Curiel is relied upon as described above.

Curiel fails to disclose using luminous material meeting applicants' claimed limitations.

However, Curiel teaches coating documents and printing on said documents (*Figure 5*) and using luminous inks/materials is deemed a matter of obvious design choice known to one of ordinary skill in the art (see *Lasch et al.*, Paragraphs 0038 and 0045), depending on the desired aesthetics of the finished product. It would therefore have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the device of Curiel to utilize a luminous material meeting applicant's claimed limitations, since it is an obvious matter of design choice within the knowledge of one of ordinary skill in the art.

### ***Response to Arguments***

**16. The rejection of claims 2 - 48 under 35 U.S.C § 102(e) and/or 103(a) – Curiel, alone or in view of various references**

Applicant(s) argue(s) that "the interference effect with visible light requires that visible light must interfere with itself or with another light source" (*page 11 of response*) and that Prince et al., Dobrowolski and Pennace are not analogous to the present method claims. The examiner respectfully disagrees.

The examiner notes that the specification is not the measure of the invention. Therefore, limitations contained therein can not be read into the claims for the purpose of avoiding prior art. *In re Sporck*, 55 CCPA 743, 386 F.2d 924, 155 USPQ 687 (1968). In the instant case, the limitation "interference effect" is not limited to the requirement

that "visible light must interfere with itself or with another light source" and must be given the broadest reasonable interpretation(s) consistent with the written description in applicant's specification as it would be interpreted by one of ordinary skill in the art. *In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027 (Fed. Cir. 1997); *In re Donaldson Co., Inc.*, 16 F.3d 1190, 1192-95, 29 USPQ2d 1845, 1848-50 (Fed. Cir. 1994). See MPEP 2111. For clarity, the Examiner has clarified the interpretation of "interference effect" in Paragraph 4, above.

Regarding the argument that the above references are not analogous to the present method claims, the Examiner notes that the above mentioned references are all directed to the field of coating technologies and/or solve similar problems to the Curiel invention, and are hence analogous to Curiel.

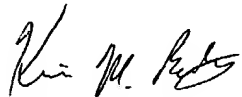
### **Conclusion**

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin M Bernatz whose telephone number is (571) 272-1505. The examiner can normally be reached on M-F, 9:00 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Thibodeau can be reached on (571) 272-1516. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1773

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kevin M. Bernatz  
Patent Examiner

May 10, 2004